

THE SEISMOLOGICAL SOCIETY OF AMERICA.¹

The first call for a meeting of those interested in the formation of such a society was issued August 22, 1906, by Prof. A. G. McAdie, of San Francisco, Cal. The object of the meeting was the establishment of a society similar in its purposes to the Imperial Earthquake Investigation Committee of Japan. The formation of a society of this character, with headquarters in California, seemed to be in order, especially in view of the fact that the Pacific coast is the locus of occasional seismic activity and that the city of San Francisco, in particular, has vital interests at stake which demand the best information obtainable. The State Earthquake Commission, appointed by Governor Pardee, in a letter dated April 21, 1906, was simply a committee of inquiry acting under instructions to gather information concerning the great earthquake of April 18. The committee was not a permanent one and was without legislative authority or other formal basis,² and subsequently placed itself on record as favoring the formation of a permanent seismological society. Several earnest investigators, including Dr. F. Omori, of the Imperial Investigation Committee, urged that organized effort be attempted thru such a seismological society to collect, preserve, and utilize all records, reports, and studies of seismological phenomena.

The society was duly organized and in time incorporated according to the laws of the State of California. The board of directors for 1907 are George Davidson, Andrew C. Lawson,

¹ We are indebted to Prof. A. G. McAdie for the following information concerning the organization of the Seismological Society of America, contained in his letter, dated May 28, 1907.—*C. F. M.*

² The Carnegie Institution has most generously provided for the expenses of the earthquake commission. The State of California has contributed nothing as yet.

T. J. J. See, Alex. G. McAdie, J. N. LeConte, Geo. D. Louderback, Chas. Burkhalter, W. W. Campbell, C. Derleth, A. C. Leuschner, and J. S. Ricard.

The object of the society, briefly stated, is the acquisition and diffusion of knowledge concerning earthquakes and allied phenomena, and the enlistment of the support of the people and the Government in the attainment of these ends. At the present time the society has a membership of about 200 active members and several life members. The membership is distributed over all of the United States. The society contemplates several lines of work and many committees have already been formed and certain duties assigned. It is hoped that publications similar in scope to those of the earthquake investigation committee may be issued in due time, altho the society is anxious to avoid duplication of work or interference in any way with work in the field of seismology undertaken by others. Its prime purpose is to diffuse knowledge, to mold public opinion, to advise wisely and to provide funds for research and investigation. Its efforts will not be restricted to any one locality or section nor to any nation. It proposes to work for the welfare of all men in the acquisition of knowledge concerning terrestrial disturbances.—*A. G. McAdie.*

CORRIGENDA.

MONTHLY WEATHER REVIEW for November, 1906, Vol. XXXIV, No. 11, page 538, El Paso, under "Total Precipitation", for "25.0" read "2.50".

MONTHLY WEATHER REVIEW for February, 1907, Vol. XXXV, No. 2, page 76, first column, line 16, for "36.5 inches" read "3.65 inches", and omit the remainder of the sentence.

THE WEATHER OF THE MONTH.

By Mr. P. C. DAY, Assistant Chief, Division of Meteorological Records.

PRESSURE.

The distribution of mean atmospheric pressure for April, 1907, over the United States and Canada is graphically shown on Chart VI, and the average values and departures from the normal are shown for each station in Tables I and V.

The influence of pressure distribution on the character of the weather over the United States was as well marked in April as during the preceding month, and, as in March, new records for extreme weather conditions were established at numerous points.

A complete reversal of the pressure distribution that had prevailed in March marked its distribution during April, and the prevailing surface winds and accompanying weather conditions normally expected in March were the most pronounced features of the weather for April.

The comparatively low pressure that prevailed during March over the northwestern districts of the United States and Canada was replaced in April by a decided winter type of high pressure, while the high pressure area of March extending from the southern California coast eastward to the Gulf and northeastward along the Atlantic coast gave way to comparatively low pressure during April.

The diminished pressure over New England, the Atlantic coast districts, and the Lake region multiplied largely the opportunities for the discharge of cold northerly winds over those districts from the high pressure area normal in April over the districts between Hudson Bay and the St. Lawrence Valley, while persistent high pressure over the upper Missouri Valley and the Canadian Northwest Provinces brought the Mississippi and Missouri valleys, the Great Plains, and eastern slope of the Rocky Mountain districts, under the influence of cold northerly winds from the region of high pressure to the north.

Pressure during April averaged 0.10 inch, or more, above the normal over the upper Missouri Valley and the Canadian

Northwest Provinces, and about the same amount below the normal over the Canadian Maritime Provinces, New England, and the northern portion of the Middle Atlantic States.

Over the Pacific slope and Plateau districts nearly normal conditions of pressure were maintained. An unusual number of storms developed over the central Rocky Mountain districts, which, in the presence of high pressure over the Missouri Valley, moved eastward south of their normal tracks, thereby bringing to the Gulf States frequent and extreme changes in weather.

The central point to which nearly all the storms of the month converged in their eastward progress across the United States was transferred from the normal course down the St. Lawrence Valley to southern New England, and that district was the theater of nearly continuous storm activity during the entire month.

TEMPERATURE.

April, 1907, established new records of thermal conditions over a large part of the United States east of the Rocky Mountains. The month was not noted for extreme cold, however, but for the persistence with which cold and unseasonable weather prevailed. The abnormally warm weather of the latter part of March was followed early in April by a decided fall in temperature over all eastern and southern districts, with freezing temperature and killing frosts as far south as central Georgia.

From the 12th to 15th a severe cold wave moved southeastward from the Dakotas to northern Florida, and freezing temperatures with killing frosts again penetrated the interior of the east Gulf and South Atlantic States.

On the 16th another cold wave overspread all northwestern districts east of the Rocky Mountains, and moved southward during the following day to central Texas and the northern

part of the west Gulf States, with killing frosts in northern Texas and the middle Mississippi and lower Ohio valleys.

A fourth cold period was inaugurated over the northern Rocky Mountain States on the 19th, and extending east and south brought unseasonably cold weather to all districts between the Mississippi Valley and the Rocky Mountains till the 23d, and cool weather prevailed during the remaining days of the month over nearly all districts. The mean temperature was below the normal to an unusual extent over the entire portion of the United States east of the Rocky Mountains, and over the whole of Canada as far as observations extend.

Over all the territory from the Appalachian to the Rocky Mountains the daily temperatures were from 6° to 10° below the seasonal averages, and the monthly means were in numerous instances lower than for the preceding month, and, with the possible exception of April, 1874, lower than before recorded in any April during the preceding half century.

West of the Rocky Mountains conditions as to temperature were reversed, and monthly averages from 2° to 4° above the normal were maintained over the greater portion of those districts.

No pronounced extremes of temperature occurred during the month. Maximum temperatures above 90° were recorded over small areas in southwestern Texas and the southern parts of New Mexico and Arizona, while over the entire northern half of the country the maximum temperatures as a rule did not reach 80°. Temperatures below zero were recorded over a narrow strip along the extreme northern border east of Montana and at some of the elevated stations of the central Rocky Mountain districts. Temperatures as low as 32° occurred as far south as the central parts of the Gulf States, central Texas, and the central portions of New Mexico and Arizona.

No serious frosts occurred over the lower elevations of California.

PRECIPITATION.

The heaviest precipitation, 10 inches or more, occurred in extreme western Florida and over the southern portions of Alabama, Mississippi, and Louisiana, the greater part of which fell in connection with a shallow depression of the barometer over the west Gulf coast and lower Mississippi Valley from the 25th to 26th. The precipitation in New Orleans and immediate vicinity on the 25th was torrential in character, amounting to nearly 10 inches in the twenty-four hours.

Precipitation was rather heavy, from 2 to 7 inches, on the western slopes of the mountains in Colorado and northern New Mexico. It was above the normal generally in the Gulf and South Atlantic States, except central and southern Florida, over northern New England, the upper Lake region, and central and southern Rocky Mountain districts.

Over the remaining portions of the United States precipitation was deficient, especially over central and southern Florida, the lower Missouri Valley, near the coast of California and over portions of western Washington.

Over the greater part of California the month was unusually dry, but little precipitation occurred in any part of the State after the 15th, and practically none fell over the southern half. Over the lower Missouri Valley a decided deficiency occurred, as also over central and southern Florida, where the accumulated deficiency for the period September, 1906, to April, 1907, at various points amounts to more than 20 inches. At Avon Park, in the interior of the southern portion of the State, the total fall for the eight months, September, 1906, to April, 1907, has been but 4.62 inches, less than 15 per cent of the normal fall.

SNOWFALL.

Snow to an unusual depth occurred from the 8th to 10th over the lower Lakes, New England, and the Middle Atlantic States from Virginia northward, in connection with the northward progress of a severe storm along the Atlantic coast dur-

ing that period. In portions of New England the fall reached depths of from 12 to 18 inches.

Considerable snow fell over the upper Lake region, the upper Missouri Valley, and on the western slopes of the Rocky Mountains, especially over Wyoming, Colorado, and New Mexico, where remarkably heavy falls occurred during the storm periods from the 19th to 21st, and again near the end of the month.

Snowfall was generally light over the Great Plains and in the mountain districts of California and Oregon. In the latter districts much snow still remained in the mountains from the heavy falls during the preceding months, being well packed and in condition to assure an ample supply of water during the summer months. A large amount of snow still remained unmelted in the central Rocky Mountain districts, assuring a well maintained flow of water in the streams of that section. Much snow also remained unmelted on the higher mountains and protected localities at lower elevations in the mountain districts of Idaho and western Montana.

HUMIDITY AND SUNSHINE.

Humidity was in excess of the average in all districts, except southern Florida, over the districts from the upper Lake region to the Dakotas, and the North Pacific coast. Over the entire Rocky Mountain and Plateau districts, the amount of moisture in the atmosphere was much in excess of the average.

There was marked excess of sunshine over the Florida Peninsula, especially in the central and southern portions, where clear weather was almost continuous, and the excess over the Pacific coast was also marked. Over most of the Atlantic and Gulf coast districts, and from the Mississippi Valley to the Rocky Mountains there was a marked dearth of sunshine.

As a whole the weather of the month was such as to retard seriously the development of vegetation and the progress of the usual seasonal pursuits, and the advance of the season so pronounced at the end of March was practically lost, and the end of April found the season retarded from two to three weeks.

WEATHER IN ALASKA.

The daily reports from Alaska, received thru the courtesy of the Chief Signal Officer of the Army, and from the cooperative observers, covering a large portion of that Territory, indicate that the weather during April was unusually mild. But little precipitation occurred, and the snowfall, which at the end of March had accumulated to considerable depths, largely disappeared under the influence of the prevailing warm and clear weather, and at the end of the month the ground was practically bare of snow.

Average temperatures and departures from the normal.

Districts.	Number of stations.	Average temperatures for the current month.	Departures for the current month.	Accumulated departures since January 1.	Average departures since January 1.
		°	°	°	°
New England	12	40.6	- 3.3	-10.0	- 2.5
Middle Atlantic	16	45.8	- 5.0	- 3.1	- 0.8
South Atlantic	10	55.8	- 5.5	+ 5.9	+ 1.5
Florida Peninsula *	8	69.2	- 0.9	+ 9.7	+ 2.4
East Gulf	11	60.7	- 3.9	+15.4	+ 3.8
West Gulf	10	61.7	- 3.7	+19.0	+ 4.8
Ohio Valley and Tennessee	13	47.4	- 7.6	+ 5.4	+ 1.4
Lower Lake	10	39.3	- 5.4	- 3.8	- 1.0
Upper Lake	12	33.8	- 6.0	- 2.7	- 0.7
North Dakota *	9	32.6	- 8.0	- 9.5	- 2.4
Upper Mississippi Valley	15	42.8	- 7.6	+ 4.2	+ 1.0
Missouri Valley	12	43.5	- 6.9	+ 6.8	+ 1.7
Northern Slope	9	59.6	- 3.2	+ 1.8	+ 0.4
Middle Slope	6	48.6	- 5.1	+14.5	+ 3.6
Southern Slope *	7	55.7	- 3.9	+20.4	+ 5.1
Southern Plateau *	12	58.5	+ 2.0	+13.0	+ 3.2
Middle Plateau *	10	49.4	+ 2.2	+18.4	+ 4.6
Northern Plateau *	12	45.9	- 0.9	+ 1.1	+ 0.3
North Pacific	7	48.7	+ 0.3	- 2.1	- 0.5
Middle Pacific	8	57.3	+ 1.9	+ 2.1	+ 0.5
South Pacific	4	59.7	+ 1.6	+ 5.2	+ 1.3

* Regular Weather Bureau and selected cooperative stations.

In Canada.—Director R. F. Stupart says :

The temperature was below the average in all portions of the Dominion, in striking contrast to April of last year, when it was nearly everywhere much above the average. The most pronounced negative departures occurred in the western provinces, ranging from 6° to 13°. In Ontario, also, the temperature was below the average, being as much as from 7° to 10° below in northern and from 4° to 6° in southern localities.

Average cloudiness and departures from the normal.

Districts.	Average.	Departure from the normal.	Districts.	Average.	Departure from the normal.
New England.....	6.0	+ 0.2	Missouri Valley.....	5.7	+ 0.6
Middle Atlantic.....	6.1	+ 0.7	Northern Slope.....	5.3	+ 0.7
South Atlantic.....	5.6	+ 0.9	Middle Slope.....	5.6	+ 1.6
Florida Peninsula.....	3.0	- 1.6	Southern Slope.....	4.6	+ 0.2
East Gulf.....	5.8	+ 0.6	Southern Plateau.....	2.4	- 0.6
West Gulf.....	5.9	+ 0.6	Middle Plateau.....	4.6	- 0.5
Ohio Valley and Tennessee.....	6.7	+ 0.6	Northern Plateau.....	5.2	- 1.9
Lower Lake.....	6.6	- 1.0	North Pacific.....	5.2	- 2.1
Upper Lake.....	6.2	- 0.9	Middle Pacific.....	5.0	- 0.4
North Dakota.....	6.4	+ 1.2	South Pacific.....	4.3	- 0.1
Upper Mississippi Valley.....	5.9	+ 0.2			

Average precipitation and departures from the normal.

Districts.	Number of stations.	Average.		Departure.	
		Current month.	Percentage of normal.	Current month.	Accumulated since Jan. 1.
		Inches.		Inches.	Inches.
New England.....	12	3.30	106	+0.2	-3.1
Middle Atlantic.....	16	3.11	94	-0.2	-3.7
South Atlantic.....	10	3.79	112	+0.4	-7.0
Florida Peninsula*.....	8	2.88	132	+0.7	-6.8
East Gulf.....	11	7.64	172	+3.2	-3.1
West Gulf.....	10	3.68	97	-0.1	-4.1
Ohio Valley and Tennessee.....	13	3.18	80	-0.8	-0.8
Lower Lake.....	10	1.95	83	-0.4	-0.5
Upper Lake.....	12	2.55	109	+0.2	-0.4
North Dakota*.....	9	0.46	24	-1.4	-1.1
Upper Mississippi Valley.....	15	2.26	76	-0.7	-0.1
Missouri Valley.....	12	1.42	49	-1.5	-1.2
Northern Slope.....	9	0.86	52	-0.8	-1.0
Middle Slope.....	6	1.87	86	-0.3	-0.9
Southern Slope*.....	7	1.53	68	-0.7	-1.3
Southern Plateau*.....	12	0.90	150	+0.3	+1.5
Middle Plateau*.....	10	1.02	100	0.0	+0.9
Northern Plateau*.....	12	0.88	75	-0.3	+0.5
North Pacific.....	7	3.36	76	-0.8	-5.0
Middle Pacific.....	8	0.93	87	-1.6	+3.3
South Pacific.....	4	0.33	25	-1.0	+2.0

* Regular Weather Bureau and selected cooperative stations.

In Canada.—Director Stupart says:

The precipitation in British Columbia did not differ much from the average, being slightly in excess of it in some districts and not quite equal to it in others. In the western provinces, at Calgary and in the

immediate neighborhood, it was more than twice the average amount. At Swift Current, also, the normal was slightly exceeded, otherwise nearly everywhere a deficit occurred. In Ontario it was exceeded in the Georgian Bay region, but only locally in other districts, many localities recording a negative departure. In Quebec and New Brunswick it was above the average from an amount varying between 0.5 inch and 2 inches, whereas in Nova Scotia and Prince Edward Island it was very generally below the average, Halifax recording a deficit of 1 inch. In Ontario the chief positive departures were Parry Sound and Montague, 2.10 inches; Gravenhurst, 1.70 inches; Midland, 1.51 inches; and the more marked negative departures, Stony Creek, 1.40 inches; Lakefield and Port Stanley, 1 inch.

Average relative humidity and departures from the normal.

Districts.	Average.	Departure from the normal.	Districts.	Average.	Departure from the normal.
New England.....	74	+ 1	Missouri Valley.....	61	- 4
Middle Atlantic.....	70	+ 3	Northern Slope.....	63	+ 5
South Atlantic.....	72	0	Middle Slope.....	60	+ 3
Florida Peninsula.....	73	- 1	Southern Slope.....	57	+ 6
East Gulf.....	72	+ 2	Southern Plateau.....	38	+ 5
West Gulf.....	73	+ 1	Middle Plateau.....	51	+ 6
Ohio Valley and Tennessee.....	69	+ 4	Northern Plateau.....	58	+ 2
Lower Lake.....	72	+ 2	North Pacific.....	72	- 3
Upper Lake.....	71	- 2	Middle Pacific.....	72	+ 1
North Dakota.....	72	+ 2	South Pacific.....	70	+ 2
Upper Mississippi Valley.....	67	- 1			

Maximum wind velocities.

Stations.	Date.	Velocity.	Direction.	Stations.	Date.	Velocity.	Direction.
Atlanta, Ga.....	8	60	nw.	Mount Weather, Va.....	23	70	nw.
Do.....	9	52	nw.	Do.....	24	78	nw.
Bismarck, N. Dak.....	11	56	nw.	New York, N. Y.....	24	52	w.
Block Island, R. I.....	9	50	ne.	North Head, Wash.....	3	76	se.
Do.....	24	54	sw.	Do.....	4	66	se.
Canton, N. Y.....	22	54	sw.	Do.....	5	85	se.
Cape Henry, Va.....	2	54	n.	Do.....	9	58	se.
Charleston, S. C.....	2	50	n.	Oklahoma, Okla.....	2	52	s.
Cheyenne, Wyo.....	17	50	nw.	Pierre, S. Dak.....	11	60	nw.
Columbus, Ohio.....	7	54	sw.	Point Reyes Light, Cal.....	1	54	nw.
Duluth, Minn.....	16	60	nw.	Do.....	14	54	nw.
Eastport, Me.....	9	55	e.	Do.....	15	56	nw.
Hatteras, N. C.....	1	55	ne.	Do.....	16	62	nw.
Do.....	2	57	ne.	Do.....	17	51	nw.
Knoxville, Tenn.....	23	50	sw.	Do.....	28	62	nw.
Lewiston, Idaho.....	4	53	w.	Sand Key, Fla.....	1	56	nw.
Lexington, Ky.....	7	50	w.	Do.....	2	50	nw.
Louisville, Ky.....	7	53	w.	Sioux City, Iowa.....	1	52	s.
Memphis, Tenn.....	29	52	sw.	Do.....	11	52	nw.
Mount Tamalpais, Cal.....	3	50	nw.	Tatoosh Island, Wash.....	5	60	sw.
Do.....	14	50	nw.	Do.....	7	57	s.
Do.....	15	54	nw.	Do.....	8	56	s.
Mount Weather, Va.....	10	54	nw.	Do.....	9	56	s.
Do.....	14	54	nw.	Valentine, Nebr.....	11	60	nw.